



Destruction of the martian tropical belt as means of the angular momentum equilibration between the tropical and extra-tropical regions.

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Mysterious contact zone of the martian lowlands and highlands with obvious traces of destruction expressed in widespread development of chaotic and fretted terrains could be considered in comparison with the equatorial and tropical belts of some other planetary bodies. It is well known that the equatorial zone of Earth is much preferable to launches of cosmic crafts than the zones of higher latitudes because the longer equatorial radius beforehand offers the larger angular momentum to crafts getting start. This purely physical property of globular planet is easily converted to money: starts from the equator are much cheaper than starts from the higher latitudes (Kourou is better than Baikonur). But this privilege of the equatorial belt means some inconvenience to the whole planetary body trying keep more or less equal angular momenta of its various parts to rotate smoothly. So, there is an everlasting struggle between gravity making a sphere and the angular momentum trying to be equal in any parts of a rotating body. One of means to diminish the angular momentum of the tropical belt is a destruction and subsidence of the crust to diminish the planetary radius. At **Earth** the wide planetary long tropical zone is marked by its destruction. It is demonstrated by development of numerous islands of the Archipelago between the South-East Asia and Australia. In Africa and South America huge depressions of the Congo and Amazon Rivers develops where the Archean crust is subsided to depths of more than 2 km. In the Pacific along the equator numerous islands of Micronesia occur. Subsidence of the basaltic oceanic crust is followed by an intensive folding and faulting of basalt and sedimentary layers as a larger mass must be held by a smaller space (a planetary radius is diminished). The central Atlantic is very demonstrative in this

sense suffering huge transform fault zones changing to more quiet tectonics to the north and south where basaltic effusions form large provinces. This addition of dense basalts to the crust plays to increase angular momentum of the extra-tropical block. In the tropical zone of **Titan** the darker methane lowlands are normally rippled in at least two directions with spacing a few km to 20 km (such forms erroneously are taken as dunes). This subsidence rippling gradually is replaced by smooth surfaces of dark basins at the higher northern latitudes. This planetary pattern is comparable with a behavior of the basalt floor of terrestrial oceans. On **Iapetus** the wide equatorial zone of the bright trailing hemisphere is distinguished by relatively numerous craters with darkened floors. This terrain connects both flanks of the dark leading hemisphere and is a continuation of its equatorial bulge (a squeezed out feature as a result of the dark hemisphere subsidence). Thus looks tending to subside and disintegrate tropical terrain on the uplifted bright hemisphere. Around the **Tethys**' equator there is a band of slightly darker surface material. It may be an area of less contaminated ice and ice with a different structure than ice at higher latitudes as think Cassini scientists. If it is coarser-grained (more loosely packed) and purer than the equatorial region tends to be less dense diminishing its angular momentum.

Now back to **Mars** where the widespread enigmatic chaotic and fretted terrains at the highland-lowland boundary could be considered as traces of the crust destruction along the wide tropical belt. A system of hillocks and their relics and separating them depressions is controlled by crosscutting tectonics. Prevailing subsidence here is characteristic. At **Saturn** a wide tropical zone usually has higher albedo than extra-tropical ones. Relatively heavier methane clouds in the H-He atmosphere are absent around the equator and concentrated on the higher latitudes (PIA09769). Here the angular momentum tends to be leveled by gas densities. Under more close inspection of other planetary bodies and Sun this uniform separation of tropical and extra-tropical zones should be discovered.